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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,873	03/15/2002	Michael R. Wells	1684-4189US (484-15631-US	4455

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EXAMINER	
GAY, JENNIFER HAWKINS	

ART UNIT	PAPER NUMBER
3672	

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/099,873	WELLS ET AL.	
	Examiner	Art Unit	
	Jennifer H Gay	3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10,12-22,24,28 and 29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-16,24,28 and 29* is/are allowed.

6)☒ Claim(s) *1-8,10,12,17,19-22* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The indicated allowability of claims 1-8, 10, 12, 17, 19-22, 24, 28, and 29 is withdrawn in view of the newly discovered reference(s) to Harrington, Garfield, Burgess, and Thrift. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 8, 10, 12, 17, 19, 20, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Harrington (US 2,147,896).

Regarding claim 1: Harrington discloses a core bit that includes the following features:

- A bit body **1** having a face surface with a throat opening that extends to a longitudinal cavity (Figure 2).
- At least one cutter **2** located on the face surface.
- At least one bore **5, 6** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface, the inlet is formed within the bit body, is conically shaped, and opens into the longitudinal cavity.

Regarding claims 2, 19: Harrington discloses a core bit that includes the following features:

- A bit body **1** having a face surface with a throat opening that extends to a longitudinal cavity (Figure 2).
- At least one cutter **2** located on the face surface.
- At least one bore **5, 6** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface, the inlet is

formed within the bit body and has a first end having a cross-sectional area joined to the at least one bore and extending to a second end having a cross-section area greater than that of the first end and opens to the longitudinal cavity.

Regarding claims 3, 20: The inlet is generally conical shape.

Regarding claims 8, 10, 17, 22: Harrington discloses a core bit for attachment to a core barrel assembly that includes an outer barrel **7**, an inner tube **9** located within the outer barrel, and a core shoe **13** disposed at one end of the inner tube. The core bit includes the following features:

- A bit body **1** having a face surface and an inner, substantially cylindrical, longitudinally extending cavity bound by an inside diameter of the bit body and configured to receive the core shoe.
- A flow path defined by an annular region bounded by the inside diameter of the bit body and an outside diameter of the core shoe.
- At least one cutter **2** located on the face surface.
- At least one bore **5, 6** extending through the bit body and having an inlet and an outlet where the outlet is formed in the face surface and the inlet has a first end having a cross-sectional area joined to the at least one bore and extending to a second end having a cross-section area greater than that of the first end and opens to the longitudinal cavity. The inlet also forms an angle of approach relative to the flow path defined by an annular region of the assembly proximate the inlet of what appears to be about 30 degrees. It is noted that without a clear definition of applicant's meaning of "about 30 degrees", Harrington appears to meet this limitation.

Regarding claim 12: Harrington discloses a core bit for attachment to a core barrel assembly that includes a core shoe **13** of a predetermined exterior configuration. The core bit includes the following features:

- A bit body **1** having a face surface with a throat opening that extends to a longitudinal cavity (Figure 2).

- At least one cutter **2** located on the face surface.
- At least one bore **5, 6** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface and the inlet opens into the longitudinal cavity at a region that would define an annular region. The annular region would inherently be configured to induce fluid recirculation zones in fluid passing therethrough as the lug **38** would cause this recirculation.

3. Claims 1-4, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Garfield (US 2,064,255).

Regarding claim 1: Garfield discloses a core bit that includes the following features:

- A bit body **1** having a face surface with a throat opening that extends to a longitudinal cavity (Figure 1).
- At least one cutter **10** located on the face surface.
- At least one bore **7** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface, the inlet is formed within the bit body, is conically shaped, and opens into the longitudinal cavity.

Regarding claims 2, 19: Garfield discloses a core bit that includes the following features:

- A bit body **1** having a face surface with a throat opening that extends to a longitudinal cavity (Figure 1).
- At least one cutter **10** located on the face surface.
- At least one bore **7** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface, the inlet is formed within the bit body and has a first end having a cross-sectional area joined to the at least one bore and extending to a second end having a cross-section area greater than that of the first end and opens to the longitudinal cavity.

Regarding claims 3, 20: The inlet is generally conical shape.

Regarding claims 4, 21: The shape of the inlet could also be considered pyramidal.

Regarding claim 22: Garfield discloses a core barrel assembly that includes a port structure (Figure 1). The port structure includes a bore **7** extending through the core bit **1** between an inlet and an outlet where the inlet forms an angle of approach relative to a flow path defined by an annular region of the assembly proximate the inlet of what appears to be about 30 degrees.

It is noted that without a clear definition of applicant's meaning of "about 30 degrees", Garfield appears to meet this limitation.

4. Claims 1-3, 5, 6, 8, 10, 17, 19, 20, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Burgess (US 2,769,615).

Regarding claim 1: Burgess discloses a core bit that includes the following features:

- A bit body **B** having a face surface with a throat opening that extends to a longitudinal cavity (Figure 1).
- At least one cutter **24** located on the face surface.
- At least one bore **23** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface, the inlet is formed within the bit body, is conically shaped, and opens into the longitudinal cavity.

Regarding claims 2, 19: Burgess discloses a core bit that includes the following features:

- A bit body **B** having a face surface with a throat opening that extends to a longitudinal cavity (Figure 1).
- At least one cutter **24** located on the face surface.
- At least one bore **23** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface, the inlet is formed within the bit body and has a first end having a cross-sectional

area joined to the at least one bore and extending to a second end having a cross-section area greater than that of the first end and opens to the longitudinal cavity.

Regarding claims 3, 6, 20: The inlet is generally conical shape.

Regarding claim 5: Burgess discloses a core bit for attachment to a core barrel assembly that includes an outer barrel **12**, an inner tube **15** rotatable within the outer barrel, and a core shoe **G** disposed at one end of the inner tube. The core bit includes the following features:

- A bit body **B** having a face surface and an inner, substantially cylindrical, longitudinally extending cavity bound by an inside diameter of the bit body and configured to receive the core shoe.
- A flow path **22** defined by an annular region bounded by the inside diameter of the bit body and an outside diameter of the core shoe.
- At least one cutter **24** located on the face surface.
- At least one bore **23** extending through the bit body between an inlet and an outlet where the outlet is located on the face surface, the inlet is formed within the bit body and has a first end having a cross-sectional area joined to the at least one bore and extending to a second end having a cross-section area greater than that of the first end and opens to the longitudinal cavity.

Regarding claims 8, 10, 17, 22: Burgess discloses a core bit for attachment to a core barrel assembly that includes an outer barrel **12**, an inner tube **15** located within the outer barrel, and a core shoe **G** disposed at one end of the inner tube. The core bit includes the following features:

- A bit body **B** having a face surface and an inner, substantially cylindrical, longitudinally extending cavity bound by an inside diameter of the bit body and configured to receive the core shoe.
- A flow path **22** defined by an annular region bounded by the inside diameter of the bit body and an outside diameter of the core shoe.
- At least one cutter **24** located on the face surface.

- At least one bore **23** extending through the bit body and having an inlet and an outlet where the outlet is formed in the face surface and the inlet has a first end having a cross-sectional area joined to the at least one bore and extending to a second end having a cross-section area greater than that of the first end and opens to the longitudinal cavity. The inlet also forms an angle of approach relative to the flow path defined by an annular region of the assembly proximate the inlet of what appears to be about 30 degrees. It is noted that without a clear definition of applicant's meaning of "about 30 degrees", Burgess appears to meet this limitation.

5. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Thrift (US 2,046,798 or US 2,113,968).

Thrift discloses a core barrel assembly that includes a port structure (Figure 3). The port structure includes a bore **3** extending through the core bit **2** between an inlet and an outlet where the inlet forms an angle of approach relative to a flow path defined by an annular region of the assembly proximate the inlet of what appears to be about 30 degrees.

It is noted that without a clear definition of applicant's meaning of "about 30 degrees", Thrift appears to meet this limitation.

Allowable Subject Matter

6. Claims 13-16, 24, 28, and 29 are allowed.

7. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (703) 308-2881. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (703) 308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Bagnell
Supervisory Patent Examiner
Art Unit 3672

JHG
March 10, 2005